SPOTLIGHT
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As enterprises transition to the era of digital businesses, software-led innovation is paramount to remain agile in volatile markets. New application architectures require a robust integration platform to ensure seamless flow of data between legacy standalone systems and newer IT environments.

Accelerating Software Innovation for Digital-First Enterprises

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Enterprises transitioning to the era of digital business

The acceleration toward becoming a digital-first enterprise continues, with 95% of CEOs confirming plans to establish a digital-first strategy (source: IDC's *Global CEO Survey 2022*). By 2026, 40% of total revenue for G2000 organizations will be generated from digital products, services, and experiences (source: *IDC FutureScape: Worldwide Digital Business Strategies 2023 Predictions*).

IDC believes enterprises are transitioning from the era of digital transformation (DX) to the era of digital business. In the early chapters of DX, the focus was on solving problems within departments, such as marketing, commerce, and field operations, resulting in islands of innovation. The second chapter is all about closing the digital ROI gap, transformation at scale, and running a viable digital business for the long term.

In the emerging era, an enterprise that successfully transforms into a digital business is one that:

- Has a digital-first strategy that is led by the C-suite; the CEO is directly involved to drive the use of technology to create competitive differentiation
- Runs digital innovation programs that deliver tangible outcomes at scale
- Focuses on enabling quantifiable business outcomes and value creation for the long term enabled directly by digital investments.

Figure 1 summarizes what it means to be a digital business.

AT A GLANCE

KEY STATS

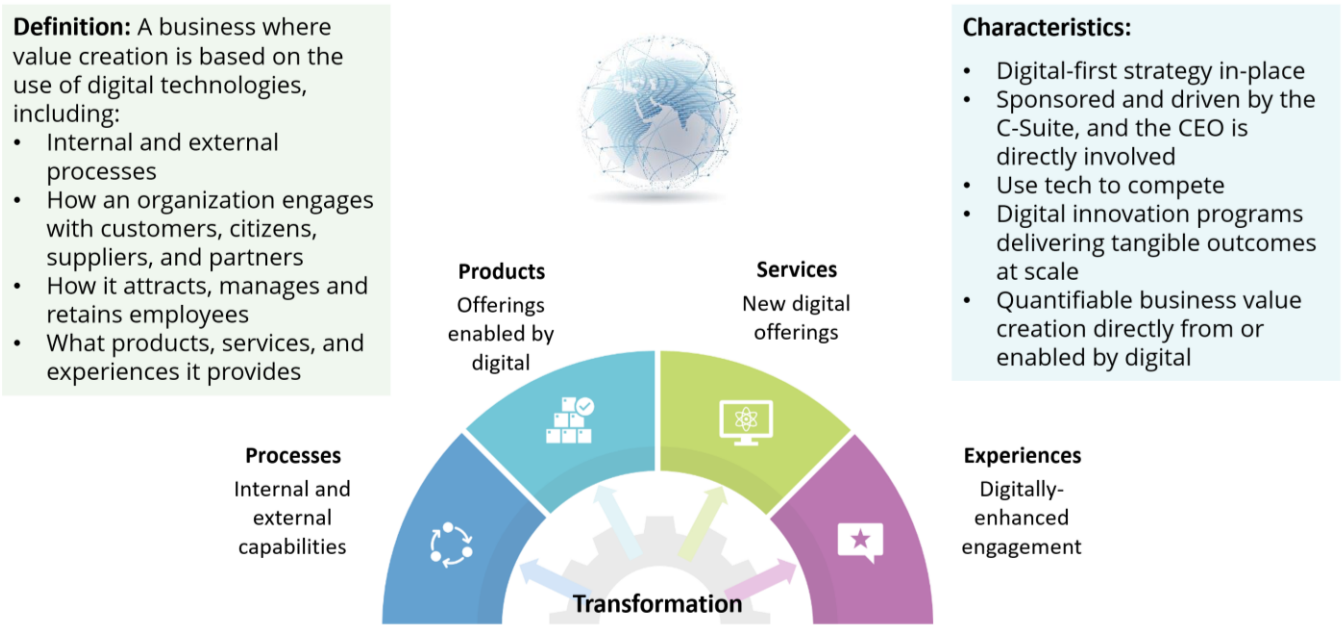
Software innovation is instrumental to accelerate the transition to digital businesses.

- IDC predicts two-thirds of the G2000 will be high-performance, large-scale producers of software-powered digital innovation by 2025.
- According to IDC's Asia/Pacific Software Survey 2022, 1 in 3 enterprises plan to modernize their legacy application through APIs and integration with modern development without making fundamental changes to the underlying applications.

WHAT'S IMPORTANT

To accelerate software led innovation, development teams must be able to quickly streamline data flow between siloed applications and enhance legacy application capabilities with access to new innovations using APIs and automation tools.

Figure 1: ***New era of digital business***


Definition: A business where value creation is based on the use of digital technologies, including:
• Internal and external processes
• How an organization engages with customers, citizens, suppliers, and partners
• How it attracts, manages and retains employees
• What products, services, and experiences it provides
Characteristics:
• Digital-first strategy in-place
• Sponsored and driven by the C-Suite, and the CEO is directly involved
• Use tech to compete
• Digital innovation programs delivering tangible outcomes at scale
• Quantifiable business value creation directly from or enabled by digital
Products
Offerings enabled by digital
Services
New digital offerings
Processes
Internal and external capabilities
Experiences
Digitally-enhanced engagement
Transformation

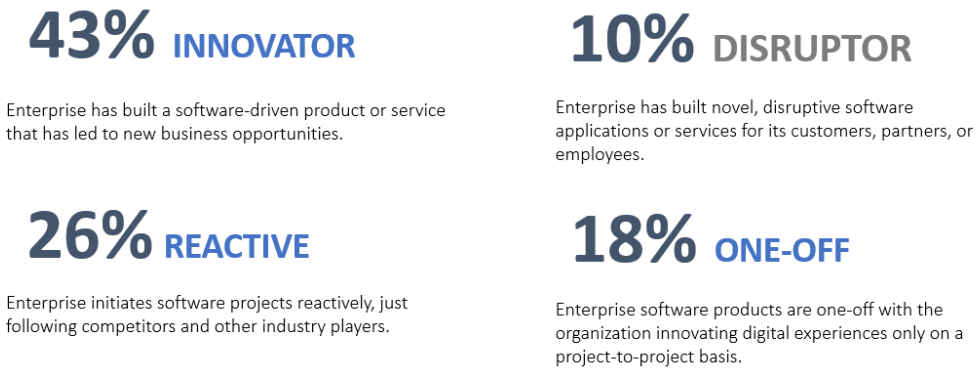
Source: IDC, 2023

Continuous software innovation is foundational for building a digital-first strategy

Digital enterprises realize that continuous software innovation is critical to business transformation and staying ahead of market volatility. IDC predicts that organizations that allocate over 50% of their software development projects to customer-facing initiatives will see revenue grow 15% faster compared with those that focus more on internal projects (source: *IDC Worldwide Future of Digital Innovation 2022 Predictions — APEJ Implications*). This will see enterprises transition from software buyers to software producers, continuously churning out digital products to customers that increase revenue streams.

A significant percentage of organizations in the region have ramped up their software innovation capacity. According to IDC's Asia/Pacific Software Survey 2022, close to half (43%) of Asia/Pacific IT leaders describe their organizations as software innovators, delivering at least one digital product or service that has led to new business opportunities (see Figure 2).

Figure 2: ***Where software innovation makes an impact***

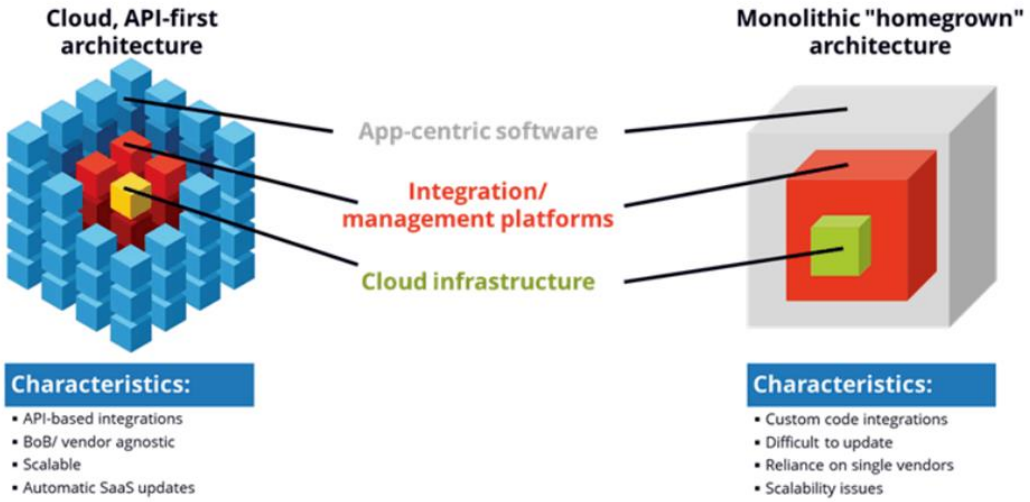

43% INNOVATOR
Enterprise has built a software-driven product or service that has led to new business opportunities.
10% DISRUPTOR
Enterprise has built novel, disruptive software applications or services for its customers, partners, or employees.
26% REACTIVE
Enterprise initiates software projects reactively, just following competitors and other industry players.
18% ONE-OFF
Enterprise software products are one-off with the organization innovating digital experiences only on a project-to-project basis.

Source: IDC's Asia/Pacific Software Survey, 2022

The shift in application architecture to accelerate innovation

Enterprises are also discovering that new software development competencies can only be gained by rethinking the way new applications are built. This requires a shift to a new architecture model that is highly modular and agile (see Figure 3). These newly architected applications should be able to integrate new innovations in the cloud, such as data management, cognitive, artificial intelligence (AI), and machine learning (ML). Equally important is the ability to orchestrate the exchange of data across the business ecosystem and ensuring better developer productivity for continuous innovation.

Figure 3: **From a monolithic architecture to an API-first model**



Source: IDC, 2023

As the need to scale software-led innovations increases, business lines will need to move quickly and efficiently to overcome IT silos, especially legacy standalone legacy systems, to ensure uniform flow of data.

Crucial role of integration and API management platforms

Integration software plays a crucial role in supporting software-led digital innovation in enterprises by streamlining data flow between siloed applications and enhancing the capabilities of legacy application with access to new innovations through APIs and automation tools. IDC's view of the integration software market includes integration platforms and software and API management and gateways, as well as independently licensed connectors and adapters.

According to IDC's software taxonomy, integration platforms include both cloud and on-premises software consisting of development and testing capabilities, integration management, and runtime capabilities, including legacy enterprise services buses (ESBs) adapted to support the family of web services standards and API lifecycle management. Key features of integration software include:

- **Development and testing capabilities** provide code-based and visual integration development, which often includes a low-code orchestrator and mapping capabilities. Some of the products provide out-of-the-box support for common integration patterns. Testing is directly supported by the integration platform and increasingly connects to DevOps tools via plug-ins.

- **Integration management** provides libraries of custom integration services and connectors and plug-ins to third-party applications and data, and it handles access rights, quality-of-service (QoS) features, and support for SLAs. Logging, monitoring, and reporting are also part of integration management.
- **Runtime capabilities** differ based on the integration products. They typically include secure access, execute flow-based logic and support common integration patterns, and handle caching, job scheduling, and other capabilities. Runtime execution uses connectors and plug-ins to access data and handle protocol and data transformations to normalize the communications and data between applications.
- **API management software and cloud services** support the secure and scalable publishing and management of application programming interfaces. This software helps API publishers design, monitor, and manage access rights, usage metrics, and the versioning of APIs. In runtime, API management provides secure gateway services and enforces access rights through authentication.

Benefits of a modern integration platform

- **Accelerate legacy application modernization*:*** Legacy applications pose a stumbling roadblock for the ambitions of businesses to integrate new capabilities into their applications quickly and with ease. The initial popularity of integration software and APIs was fueled by its ability to connect siloed legacy applications and enhance them with new digital capabilities available on the cloud. According to IDC's Asia/Pacific Software Survey 2022, 1 in 3 enterprises plans to modernize its legacy application through APIs and integration with modern development without making fundamental changes to the underlying application.
- **Hybrid integration**: According to IDC Asia/Pacific Cloud Survey 2022, hybrid cloud adoption is gaining momentum, with nearly 50% of enterprises gravitating toward a hybrid cloud model by 2024. An integration platform can bridge the enterprise's applications deployed in the cloud and legacy on-premises systems providing better interoperability between the two environments.
- **Developer productivity**: Ensuring superior developer productivity is important as skilled talent continues to be stretched thin externally across the Asia/Pacific region and internally as they are roped in for multiple digital initiatives. IT needs to ensure professional developers can work more quickly by streamlining or eliminating aspects of the development process with low code, no code solutions and automation. Additionally, connected applications make it easier for developers to automate and streamline the flow of data across business lines.
- **Data and process integration**: A key challenge is trying to solve the issue of process and data moving separately through the organization. IDC research has found that integration software is increasingly being fused with data integration, B2B, and process automation technologies to streamline data flow and accelerate business process reengineering during modernization projects.
- **Control cost of software innovation**: An integration platform with a native API Management module can handle API traffic and can help businesses manage the exploding demand of API calls and control costs while providing access to new innovations.
- **Democratize software innovation to business lines:** With the explosive growth in the use of APIs, businesses have struggled to perform self-service integration because of the lack of a holistic governance framework and tools to manage the consumption of APIs across business lines. An integration platform with an API management console and low code, no code features can help solve this issue, as even non-technical business users can work on the codeless integration of business apps and automation.

Considering TPIsoftware

TPIsoftware was established in 2005 to provide software quality management and consulting services to TSMC. After its initial success, in 2008, TPIsoftware entered the financial services sector by building a CRM system for one of the top banks in Taiwan. In a span of just six years, TPIsoftware delivered more than 400 successful projects on a million-dollar scale of each and expanded its client base in the financial services sector with prominent clients such as Cathay Financial Holdings, Taishin bank, and Prudential. In 2017 TPIsoftware first established its Singapore subsidiary with the aim to scale its presence in the growing Asia/Pacific market. In the following, they established Vietnam subsidiary in 2019, and two overseas subsidiaries—Thailand and Japan, this year.

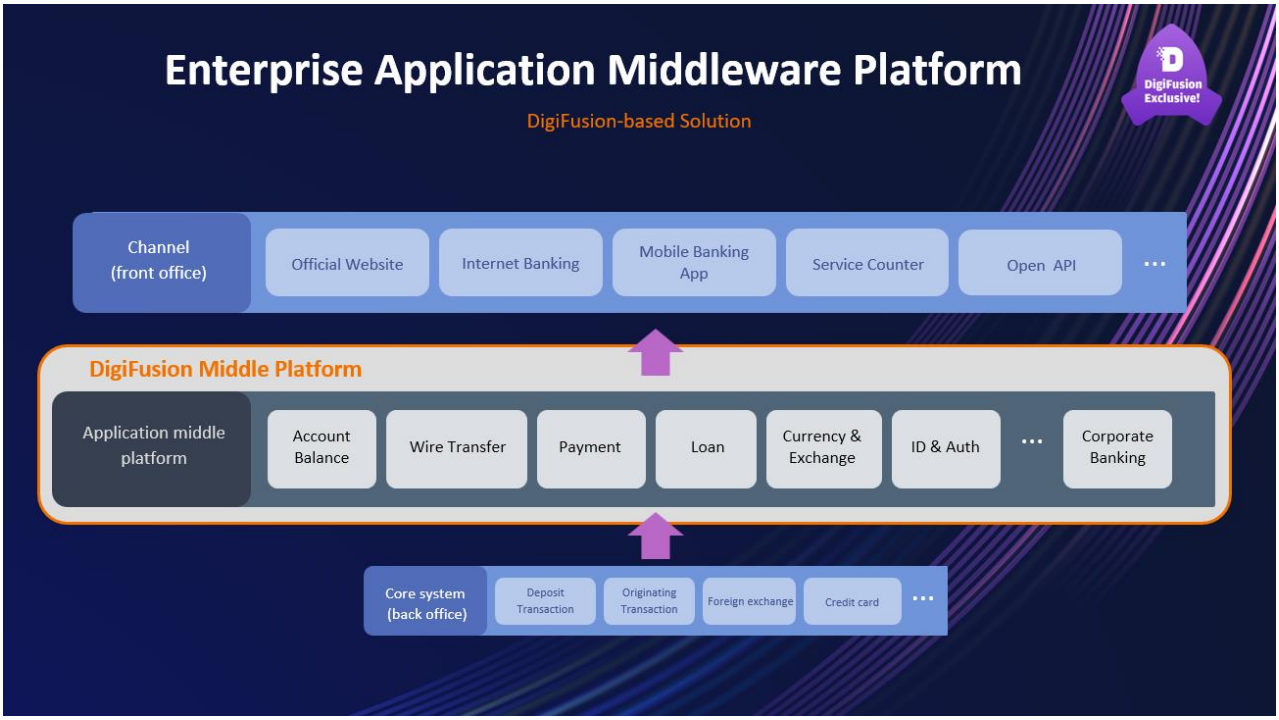
Today, TPIsoftware has focused its go-to-market offerings to cater to clients in verticals such as public sector, retail, and healthcare. This verticalization focus has enabled TPIsoftware to contextualize its solutions to address the key industry pain points of its customers and build a reputation for its portfolio of solution lineups. Additionally, TPIsoftware is actively engaged in helping enterprises accelerate sustainability-led digital transformation investments through its environment, sustainability and governance (ESG) reporting data platform focused on tracking carbon emissions for customers.

The solution in brief

TPIsoftware offers its proprietary integration software solution under the brand name – DigiFusion. The solution is positioned as a cloud-compliant, full-functionality integration and service management middleware offered in a platform-as-a-service model for secure, mission-critical data integration and transformation requirements of its clients. It also contains a host of features to help development teams accelerate software development, improve productivity, and focus on innovation. Some of the unique use cases and features of DigiFusion are:

- **Designed for mission-critical systems**: DigiFusion has its roots in the banking and financial services industry where it had to integrate all the components of core banking services in one out-of-the-box iPaaS package. The aggressive compliant requirement from financial services customers has helped TPIsoftware to design DigiFusion in a way to be secure and customizable with varying industry requirements. This native integration design of DigiFusion helps accelerate the time to value and minimize risks involved in digital integration platforms (Figure 4).

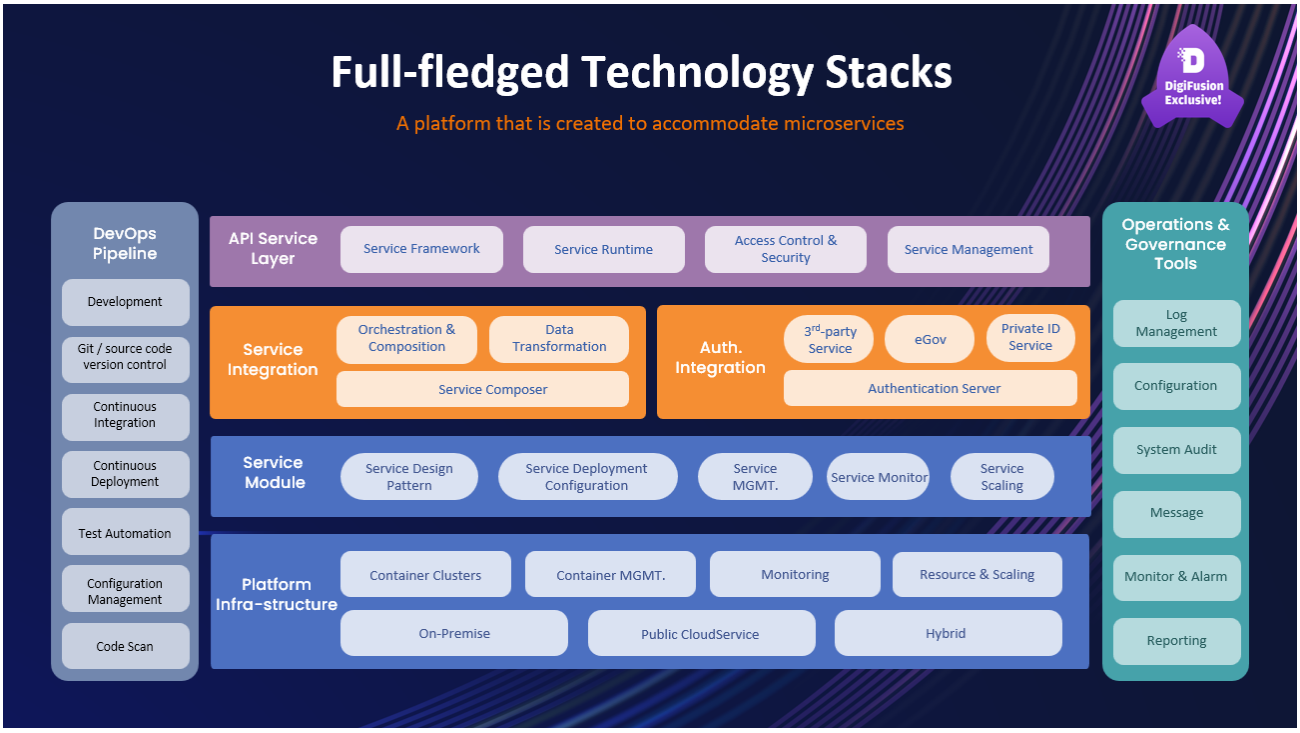
Figure 4: ***TPIsoftware DigiFusion middleware platform***



Source: TPIsoftware, 2023

- **Deployment models**: DigiFusion is designed as a cloud-native application and supports integration with microservices-based architecture. It supports modern development methodologies with an Interface to integrate with the DevOps pipeline including GitHub. Additionally, to support the growing appetite among customers to embrace multicloud deployments, DigiFusion is certified by both AWS and GCP and available on the hyperscaler marketplaces to be consumed as a service.
- **API service management module**: DigiFusion comprises an enterprise-grade API management platform based on an OpenAPI architecture called digiRunner. This platform acts as a unified mechanism for enterprises to develop, deploy, and manage their API usage in its entirety. Additionally, the platform provides the tools needed for businesses to have greater control over their API usage such as an online console providing platform provides the tools needed for businesses to have greater control over their API usage such as an online console providing comprehensive API log traces and end-to-end observability for every behavior of each API in use.
- **Low-code development to improve developer productivity**: DigiFusion supports low-code development with a drag-and-drop graphic interface for fast API development. Developers can work more efficiently and focus more on improving application logic, creating better user experiences, and innovating new features rather than spending time dealing with mundane tasks.
- **Sandbox and mock test**: The sandbox and mock test featured in DigiFusion helps accelerate the implementation timeline by allowing both frontend and backend development teams to test concurrently.
- **SLA-guaranteed Infrastructure**: DigiFusion is designed to ensure zero downtime and is guaranteed as part of the product design. DigiFusion achieves this through its synchronized cache-based design that avoids overloading of critical infrastructure and automated load-balancing capability to manage back-end traffic.

Figure 5: ***Snapshot of TPIsofware's full tech stacks***



Source: TPIsoftware, 2023

- **Log Management:** The centralized log data management model of DigiFusion called digiLogs integrates log data from multiple systems. The open API model to receive logs helps digiLogs to trace logs from multiple data sources eliminating the hassle of finding each log record from disparate systems.
- **Security integration:** As a middle-layer platform, DigiFusion provides tight integration with the enterprise's internal and third-party security systems. Authentication Integration is a critical module of DigiFusion which provides robust Identification and security mechanisms for FIDO, access control, data encryption and single sign-on integrations.

Opportunities for growth

TPIsoftware has strong technical capabilities to help its enterprise customers modernize legacy applications and scale software-led innovations. Strengthening of its local support and delivery capabilities will help TPIsoftware scale its presence in the Asia/Pacific region and meet the needs of its customers. To provide a seamless experience for customers using various technologies and cloud provider stacks, TPIsoftware will need to strengthen its existing partnership pool with local independent software vendors and cloud providers.

Conclusion

IDC research shows that enterprises continue to accelerate toward their vision of building digital businesses that create new experiences and revenue streams. A modern IT environment with modular applications that streamline real-time data flows is crucial to helping enterprises achieve their digital business ambitions. Legacy applications and monolithic application architectures are often stumbling roadblocks for enterprises trying to scale digital initiatives. IDC believes that solutions such as TPIsoftware's DigiFusion suite will play an integral role in helping customers with huge legacy footprints to enhance their innovation capabilities without making fundamental changes to the application architecture. IDC believes TPIsoftware is well placed to support enterprises that are looking to accelerate their efforts in software-led digital innovation.

CUSTOMER CASE STUDY AT-A-GLANCE

TPIsoftware's recent collaboration with a Thailand-based company **Srisawad Corp PCL**, further exemplifies its ability to modernize core legacy business applications and enable business model reinvention with its full-fledged middle platform DigiFusion.

BACKGROUND AND CUSTOMER REQUIREMENTS

Srisawad Corp PCL, a consumer finance company with 5,316 branches in Thailand offers microfinance, loan, non-performing assets management services and more to its customers. To enhance the scope of its services, Srisawad invested in a new cloud-based loan management system that could integrate with various financial modules internally and subsequently provide access to various innovations in the digital ecosystem through APIs.

SOLUTION AND BENEFITS

TPIsoftware leveraged its iPaaS middle platform DigiFusion for integrating the new cloud base applications to Srisawad Corp internal legacy applications.

BENEFITS

- TPIsoftware's API management tool digiRunner helped improve connectivity with internal and external services despite different API formats.
- To ensure strict regulatory compliance, digiLogs managed a high volume of log data across systems and applications for Srisawad's loan management platform with monitoring dashboards, visual analytics reports, transaction trajectory, alert mechanisms and more, which gave the internal IT teams a complete visibility over Srisawad's IT landscape for real-time troubleshooting.
- The framework of DigiFusion helped enhance the flexibility, agility, and interoperability of the loan management system, and allowed it to add, scale up or remove services, enabling Srisawad to provide more innovative services and adapt its business models to changing market dynamics.

About the Analysts

Rijo George Thomas, *Research Manager, Cloud & IT Services Research*

Rijo George Thomas leads the enterprise application services research and is in charge of delivering custom client projects across service segments such as automation services, security services, and managed cloud services for the Asia/Pacific region. Additionally, Rijo is responsible for assessing the latest market trends, competitive landscape, and buyer sourcing strategies in services (implementation, modernization, and managed services) around major enterprise applications.

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MESSAGE FROM THE SPONSOR

Act Local, Grow Global

Established in 2005, TPIsoftware is a leading FinTech software company in Taiwan specializing in enterprise B2B software that includes integrated service middle platform DigiFusion and AI-powered product series SysTalk.ai. TPIsoftware also offers comprehensive software solutions, end-to-end IT outsourcing, multi-cloud and cross-cloud management services with extensive cross-national project experiences to help businesses succeed in digital transformation.

Selected by Financial Times as a top 500 Asia-Pacific High-Growth Company of 2022 and 2023 in a row, honored with Taiwan Excellence Awards, and often featured in reports of leading research firms like IDC and Gartner, TPIsoftware has been recognized as the disruptor in innovating the FinTech ecosystem.

Book a Demo: https://www.tpisoftware.com/en/products/digifusion#bookademoen

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